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Strategies for Preventing the Digital Divide

Overview

This paper provides a model and outlines strategies to prevent the digital divide for disabled and rural and urban job seekers by training them for telework with the help of telecommunication technologies. It attempts to answer four basic questions:

- Does telework have the potential to assist disabled individuals to obtain and retain employment?

- Can telecommunications centers connect low-income urban job seekers who lack local employment opportunities to suburban jobs?

- Can telecommunications centers connect rural job seekers who lack local employment opportunities to urban jobs?

- How do you speed up and enable people with disabilities?

The paper presents a general model for closing the digital divide with respect to the four groups. In addition, it provides specific recommendations for different populations.

Introduction

Telework is defined as an electronic process whereby tasks are accomplished in multiple and separate locations without the physical presence of all the people involved in the tasks. Common examples are electronic mail, wireless and cellular communications and voice mail. Traditionally, people have thought of telework and telecommuting as synonymous terms with the image of a person working from home using a computer, telephone and a fax machine or modem.[1] However, telework is not limited to the home and provides tremendous potential for community economic development.

Businesses and organizations in the United States and around the globe have been using teleworkers for a long time. Several examples are Procter & Gamble, Philip Morris, and 3M sales and marketing organizations. Recently, Ford Motor Company provided a home computer to each employee. A nonprofit organization, International Telework Association and Council (ITAC) estimates that there are approximately 20 million Americans who telecommute.

Both academicians and practitioners have looked closely at teleworking and have cited several benefits as well as concerns over it. Some of the benefits include reports of improved productivity and cost savings resulting from less commuting and reduced need for office space. Decreased commuting also has a positive impact in terms of less pollution of the environment. According to a recent ITAC survey sponsored by AT&T, the estimated annual savings in absentee costs per teleworker averages 63% or $2,086 — based on median salary and the number of days teleworkers were sick but working at home. Savings were also reported for increased retention and improved productivity of teleworkers. According to Gail Martin, ITAC executive director, "An organization with 100 employees, 20 of whom telework, could potentially realize a savings of $200,000 annually."

Some of the concerns related to telework have been safety and health issues, feelings of isolation, and the privacy of teleworkers. Also, managers traditionally are used to observing their employees as they perform their duties. In a teleworking situation, the monitoring of employees becomes a management issue. Computer Based Performance Monitoring (CBPM) and other techniques have been employed to monitor the performance of employees.[2]

Can Telework Aid Populations With a History of Insufficient Workforce Opportunity?

The basic underlying question becomes, "Can we bring work to those who have had insufficient opportunities to get work in the past?" The answer seems to be a rather straightforward "Yes, we can." The key to this puzzle is information technology. With ever-increasing use of the Internet and the supporting technologies that have made it possible to access information at faster speeds, it seems almost natural that telecommuting will be used more and more in the future to remedy this inequity. A recent trial in the United Kingdom exemplifies how telework can benefit previously underemployed populations.

The Automobile Association (AA) of the United Kingdom provides breakdown assistance to motorists once every seven seconds during the rush hours, which causes tremendous pressure on their call centers.[3] In 1997, AA decided to set up a teleworking trial to see if this could ease the pressure on call centers during peak rush hours. Ten persons were recruited or selected for this trial, some of whom were *disabled* and new to the AA. The AA used the following criteria when recruiting or selecting teleworkers for their trial: people needed to be self motivated, self disciplined, self confident, be able to work with minimal supervision, and be proficient in the use of information technology. (These qualities summarize the kind of employee who generally would be successful as a teleworker.)

The AA provided the initial training. The trial was extremely successful and in 1998, a further 15 employees from their Leeds call center became teleworkers. Peter Tyer, the AA's director of call handling says, "Teleworking has helped us to overcome crowded office space and allows us to respond faster to peak demands. *It has opened doors to people who have found it hard to get a job simply because they have difficulty getting to the job."*

The Need for Training Centers

There is an evident need for training centers for people who wish to become successful teleworkers. Training is instrumental in creating job opportunities for disabled Americans and for urban and rural job seekers who lack local employment opportunities and thus is the first step toward bridging the digital divide. Local universities and community colleges, in partnership with federal and state governments and businesses, can play an important role in providing training to future teleworkers.

Recently, the labor market has been extremely tight with the lowest unemployment levels recorded in 30 years. There is a demand for workers at all levels. This is indeed a great time to provide better job opportunities to people who have lacked them because of a locational disadvantage or disability. Telecommunication centers can be instrumental in connecting rural and low-income urban job seekers to better jobs. Disabled workers could work from home using computer technologies through these centers. The centers can provide a range of services in a very cost-effective way to both government and businesses. Businesses already using this tool can help in the development of future centers. To learn how they can best help disadvantaged populations, more discussion on the logistics and operation of these telecommunication centers is needed.

The following sections provide a model and discuss strategies that can be employed to prevent the digital divide while focusing on the following questions:

- Does telework have the potential to assist disabled individuals to obtain and retain employment?
- Can telecommunication centers connect low-income, urban job seekers who lack local employment opportunities to suburban jobs?
- Can telecommunication centers connect rural job seekers who lack employment opportunities to urban jobs?
- How can telework enable people with disabilities?

The Model

Based on the above discussion, the following elements are proposed as a model for training disabled persons and job seekers from rural and urban communities who lack job opportunities.

1. Identify the skill areas in which training is needed and capacity exists. Representatives from potential employers, local and regional policy, advocacy, action, and educational organizations should do this collaboratively.

2. Community colleges and universities, in partnership with other organizations, city, state, and federal government, develop a training program. This partnership is critical to defray the costs associated with development of the program.

3. Assess the skills of individuals enrolling in the training program by using an existing skill assessment test or a new test developed for this program. The test results will determine the preparedness of the individual for the training program. A customized training program can then be developed for the individual.

4. The program may be offered on-campus via evening or weekend classes and through the Internet. The program should preferably be modular with a training module for each of the areas identified in step 1. This will help in customizing the training to individual needs. For individuals who choose to take the training program via the net, we assume that they have access to computer equipment with Internet connections. Banks can also play an important role by providing low-interest loans for purchasing equipment through their community reinvestment commitment. Access to computers is also available in most of the public libraries, which can also be a useful resource in this effort.

5. An online interactive assessment system will be developed to monitor the progress of individuals using the training program and also to assess the effectiveness of the training program.

6. A certificate will be awarded to individuals completing the training successfully coupled with hiring commitments.

7. Develop a comprehensive web site that will enlist all the people who have successfully completed the training. The web site may also include the resumes of all prospective teleworkers and also the job listings from various organizations. After all, the ultimate goal of this project is the employment of people with disabilities and rural and urban job seekers who lack local job opportunities.

Enabling Disabled Job Seekers

- Contact and inform all the social advocacy organizations, public and private schools, community colleges, and other sources to advertise among disabled the training opportunities. Examples of the organizations are Goodwill and Salvation Army.

- Create and maintain a database of all disabled service providers in a region (by city or state).

- The disabled person may not be able to travel to attend the on-campus classes and may not have Internet access from his/her place of living. To address this issue we propose creating a mobile training center. The mobile training center will be equipped with computers and other telecommunication equipment needed. The center may be operated by the university or may be outsourced to university certified entrepreneurs.

- Provide assistance to disabled workers in procuring and installing equipment.

- Assuming that most disabled teleworkers will work from their home, they may encounter feelings of isolation and could also develop a tendency to overwork. Time management should be an integral part of their training. Supervising managers should be trained to make sure that teleworkers do not overwork and burn themselves out. An online community of disabled workers will be very effective in resolving some of the concerns. They can share their experiences, problems, and success stories with each other.

Specific Assistance Needed by Rural Job Seekers

- Develop a plan to advertise to rural job seekers about training opportunities for teleworking.

- If the rural job seekers do not have access to computers and Internet, then the mobile training center can also be used for training them.

- If there are enough rural job seekers in an area, then starting a telecommunication center may be economically viable. Entrepreneurs who may charge a fee to companies using the services of these telecommunication centers may run these centers.

- Engage and utilize the United States Department of Agriculture (USDA) cooperative extension workers and facilities for assistance.

Helping Urban Job Seekers

- In terms of access to the computers and Internet, the urban job seekers are better placed than disabled and rural job seekers. They have access to public libraries and schools, most of which are equipped with computers that are Internet enabled. Many cities have also started community computer centers to train individuals in basic computer skills and to provide Internet access. These centers may provide the resources for online training on teleworking.

- If the urban job seekers are located in the same area as the university, then they also have the option to attend on-campus classes.

This model can be used to train the disabled as well as rural and urban job seekers but there are certain issues that need to be considered. Each group and the issues related to them will be addressed below in the next section.

The Strategy for Employing the Model

An over-arching strategy to prevent the digital divide will include the following elements.

- Identify cities and rural areas where there is maximum need. Employment rates, average salaries, etc., can be the criteria used.

- Establish partnerships with local universities and community colleges to provide appropriate training.

- The city or the local government should actively advertise this opportunity to prospective teleworkers.

- Encourage entrepreneurial activity through mentoring.

- Establish telecommunication centers (who are responsible?). This seems to be a good opportunity for entrepreneurs since it is a market niche which big online training corporations may not find too attractive. The Small Business Administration can play a role in identifying entrepreneurs and helping them with the process of setting up their business.

- Should businesses be given any incentives (tax relief, etc.) for using the services of the telecommunication centers? Maybe the availability of additional workers is an incentive in itself!

- Develop and offer incentives such as pay supplements, infrastructure, and reduced utility costs or subsidies.

- Support dissemination of best practices from other industries.

- Partner with trade associations and community planners to develop long-range plans.

- Identify potential customer bases for both products and services (a new business in itself).

Policy Implications

The United States has a rich and robust history with regard to telecommunication and transportation policy. The concept of universal access and a world-class highway system should be carried into the arena of telework. Specifically, each community, home, and business, and all public facilities should have access to the Internet and the associated technologies. If we are going to compete as a nation, our skillbase in this area must increase. This means that the educational system will require increased support in term of training students and teachers, and even entire communities which must create economic development plans mindful of the role of technology. It is in the national interest to nurture and spark these activities for competitive advantage. We must plan, act, assess, and replicate best practices guided by policy developed in collaborative forums and customized to local conditions.

Conclusion

There are several private businesses that are providing distance learning via the Internet. Businesses are expected to spend $7.1 billion on corporate online learning by the year 2002, up from $1.1 billion in 1999. Online learning is becoming popular in corporate America as it is cost-effective and provides greater access. For example, Procter & Gamble has initiated a global learning program, RapidLEARN, which will be accessible online to 110,000 employees in more than 70 countries. If the P&G example can be replicated, it can help serve as a model for other organizations in the development and delivery of the training program for future teleworkers.

According to John Chambers, CEO, Cisco Systems, "There are two fundamental equalizers in life — the Internet and education." Technology is breaking down the walls of privilege. Networks are able to carry the best educational opportunities to the most remote corners of the earth. The Cisco IOS™ multimedia services enable networked multimedia applications, enabling the network to support real-time voice, video, and data. Multicast techniques are being used that enable one audio/video stream to be delivered to multiple recipients, providing the flexibility to bridge time and distance. This has resulted in an improved access to educational programs for a wide range of students, including disabled, part-time, and nontraditional students. The Internet connectivity offers people work based on their ability to perform, rather than on the color of their skin, physical appearance, or national origin.

The technology to deliver online education is available but so far its primary application has been in the area of corporate training. The questions before us are:

- How can we use this in a cost-effective way to deliver training to disabled and rural and urban job seekers who lack local job opportunities?

- How can we provide better job opportunities to these job seekers with the help of telecommunication technologies?

- How can we use this technology to narrow the digital gap?

We have provided a model and attempted to outline a strategy that could be used to provide better job opportunities for groups of people who have been left behind in this era of great economic growth. There is a feeling of urgency and a need for collaboration between businesses, academia, and government to address these important issues that are going to affect the lives of many individuals and help shape our society.

End Notes

[1] W. French, *Human Resources Management*, 4th ed., Houghlin Miflin Co., 1998.

[2] Ben N. Fairweather, "Surveillance in Employment: The Case of Teleworking," *Journal of Business Ethics*, Dordrecht, October 1999.

[3] "Flexible Working Case Studies," The Automobile Association, http://www.wfh.co.uk/wfh/flexible-com/case_studies/case_study2.htm.